CLAIMS

1. A reciprocating engine comprising: first and second ring grooves disposed adjacent to each other in a reciprocating direction of a piston and formed in a side surface of said piston; first and second piston rings respectively fitted in said first and second ring grooves; partitioning means for partitioning a space between said first and second piston rings into a thrust side space and an anti-thrust side space; and communicating means for allowing the thrust side space to communicate with a combustion chamber, said communicating means having a plurality of communicating passages provided in an inner surface of a cylinder, and being adapted to allow the thrust side space to communicate with said combustion chamber through said plurality of communicating passages.

2. The reciprocating engine according to claim 1, wherein said communicating means is adapted to allow the thrust side space to communicate with said combustion chamber when said piston is located in a vicinity of a top dead center.

3. The reciprocating engine according to claim 1 or 2, wherein said partitioning means has a hampering member disposed in said second ring groove so as to hamper mutual communication between the thrust side space and the anti-thrust side space through a gap created between a bottom surface defining said second ring groove and an inner peripheral surface of said second piston ring opposing said bottom surface.

4. A reciprocating engine comprising: first and second ring grooves disposed adjacent to each other in a reciprocating direction of a piston and formed in a side surface of said piston; first and second piston rings respectively fitted in said first and second ring grooves; partitioning means for partitioning a space between said first and second piston rings into a thrust side space and an anti-thrust side space; and

communicating means for allowing the thrust side space to communicate with a combustion chamber, said partitioning means having a hampering member disposed in said second ring groove so as to hamper mutual communication between the thrust side space and the anti-thrust side space through a gap created between a bottom surface defining said second ring groove and an inner peripheral surface of said second piston ring opposing said bottom surface.

5. The reciprocating engine according to claim 4, wherein said communicating means has a plurality of communicating passages provided in an inner surface of a cylinder, and is adapted to allow the thrust side space to communicate with said combustion chamber through said plurality of communicating passages.

6. The reciprocating engine according to claim 4 or 5, wherein said communicating means is adapted to allow the thrust side space to communicate with said combustion chamber when said piston is located in a vicinity of a top dead center.

7. The reciprocating engine according to any one of claims 3 to 6, wherein said second ring groove is disposed in the side surface of said piston such that said first ring groove is located between the same and a head end face of said piston.

8. The reciprocating engine according to any one of claims 3 to 7, wherein said partitioning means has at least one pair of hampering members disposed in such a manner as to oppose each other along an axial direction of a piston pin coupling said piston and a connecting rod.

9. The reciprocating engine according to any one of claims 3 to 8, wherein said partitioning means has at least one pair of partitioning members provided between said first and second piston rings, and said pair of partitioning members are disposed in such a manner as to oppose each other along the axial direction of said piston pin coupling said piston and said connecting rod.

10. The reciprocating engine according to claim 9, wherein said hampering member and said partitioning member are disposed in such a manner as to be aligned in the reciprocating direction of said piston.

11. The reciprocating engine according to claim 9 or 10, wherein said partitioning means has a pair of urging members for respectively urging said pair of partitioning members resiliently toward the inner surface of said cylinder.

12. The reciprocating engine according to claim 11, wherein said pair of urging members are respectively disposed in such a manner as to oppose each other along the axial direction of said piston pin coupling said piston and said connecting rod.

13. The reciprocating engine according to claim 11 or 12, wherein said urging member comprises a spring.

14. The reciprocating engine according to any one of claims 9 to 13, wherein said partitioning means has a pair of groove portions formed in the side surface of said piston between said first and second piston rings and recessed toward the inner surface of said cylinder, and said partitioning members are respectively disposed in spaces respectively defined by said pair of groove portions.

15. The reciprocating engine according to any one of claims 3 to 14, wherein said partitioning means has a pressing member disposed in said second ring groove and adapted to resiliently press said hampering member toward the inner peripheral surface of said second piston ring.

16. The reciprocating engine according to claim 15, wherein said partitioning means has a pair of said pressing members opposing each other along the axial direction of said piston pin connecting said piston and said connecting rod.

17. The reciprocating engine according to claim 15 or 16, wherein said pressing member comprises a spring.

18. The reciprocating engine according to any one of claims 3 to 17, wherein said partitioning means has a recessed portion disposed in the bottom surface defining said second ring groove and recessed toward the inner peripheral surface of said second piston ring, and said hampering member is disposed in a space defined by said recessed portion.

19. The reciprocating engine according to any one of claims 3 to 18, wherein said first piston ring is disposed adjacent to the head end face of said piston, and is disposed in said first ring groove such that a ring gap of said first piston ring is located on a thrust-side space side with respect to said hampering member.

20. The reciprocating engine according to any one of claims 3 to 19, wherein said second piston ring is disposed in the side surface of said piston such that said first piston ring is located between the same and the head end face of said piston, and said second piston ring is disposed in said second ring groove such that a ring gap of said second piston ring is located on an anti-thrust-side space side with respect to said hampering member.

21. The reciprocating engine according to any one of claims 3 to 20, wherein said hampering member comprises a pin.

22. The reciprocating engine according to any one of claims 1 to 21, wherein said piston is coupled to said connecting rod by means of said piston pin, and said piston pin is provided in said piston such that a line connecting an axis of said piston pin and an axis of a crankshaft is inclined toward the anti-thrust side with respect to a line connecting a center of said piston and the axis of said crankshaft.